

## **Flexible Pipe Joints**

### **Corrugated Metal Pipe**

Section 718, 719, 721 & 722

Updated on 6-28-02

#### **Bands**

Coupling bands for pipe 18 inch and smaller shall have a minimum width of 1 foot. Coupling bands for pipe 21 inch and larger shall have a minimum width of 2 feet. Coupling band thickness shall conform to the following:

Pipe size, (inches)	Minimum thickness, (inches)
8 thru 54	0.057
60 thru 72	0.072
Over 72	0.101

Coupling Bands shall be fabricated with corrugations the full width of the band. Bands must be installed to lap an equal distance on each of the pipe sections being connected.

When helical pipe is utilized, each pipe end must be rerolled (a distance from the pipe end equal to one-half the bandwidth) to form annular corrugations.

#### **Connections**

After each pipe section is drawn together (maximum 3" end-fit separation clearance allowed), each coupling band shall be secured to the pipes using Zinc coated rods with lugs or band angles.

If circumferential rods with lugs are selected for use, four ½" diameter ASTM A 36 steel rods evenly spaced (two on each side of the joint) are required.

When band angles are used, they may be welded, bolted or riveted to the connecting band to obtain a suitably strong, watertight connection.

Angles shall be manufactured from ASTM A 36 Steel with minimum dimensions of 3/16"x2"x2" and be attached full width of the band.

Angle pairs shall be drawn tight with a minimum of six ½" diameter ASTM 307 Zinc coated bolts and nuts.

Other angles with equivalent strength may be substituted if approved by NDR. Bolts, nuts and hardware items used with coupling bands shall be Zinc coated as required in AASHTO M 36M.

#### **Gaskets (For Water, Soil (Silt)-Tight Joints)**

Gaskets shall be sleeve type (continuous or with butt glued ends), 3/8" thick by a minimum of seven inches wide.

Gaskets shall be closed-cell-expanded rubber meeting the requirements of ASTM D 1056.

The gasket for each connection shall be centered over the joint.

In lieu of closed-cell expanded rubber gaskets, asphalt or tar based mastic material meeting the requirements of ASTM A 849 or ASTM D 4586 may be used for watertight joints.

The inside of the connecting band and the entire ends of the two pipe sections within the lap seam shall be coated with 1/4" of asphalt or tar based mastic (ASTM A 849, Trowel Grade or ASTM D 4586). The coated areas should be kept free of all dirt, gravel, and other foreign material until the bands are in place and tightened.

#### **Adjoining Pipe Ends**

The adjoining pipe ends in any joint shall not vary more than 0.5 inch in diameter or more than 1.5 inches in circumference. These tolerances shall be attained by proper production controls or by match marking pipe ends.

## **Water-Tight Joints**

### **Corrugated Metal Pipe**

See "Gaskets (For Water, Soil (Silt)-Tight Joints)" on previous page.

### **Plastic Pipe**

Last Updated 9-12-16 Joint Product Designations (approved for sizes thru 60")

<b>PRODUCT</b>	<b>MANUFACTURER</b>
Pro-Link Ultra Series WT, bell & spigot, w/gasket	ADS (Advanced Drainage Systems Inc.)
Sure-Lok WT/BLUE SEAL, bell & spigot, w/ F477 gasket	Hancor
GOLDFLO WT, Bell & Spigot, w/F477 gasket	PRINSCO, INC.

### **Gaskets**

Gaskets for watertight connections must be continuous "O" ring type, elastomeric seals meeting ASTM F 477 requirements NOTE: Plastic joint types from other plastic pipe manufacturers not currently shown may be approved by submitting samples to the NDR Materials and Tests Division.

## **Soil (Silt)-Tight Joints**

### **Corrugated Metal Pipe**

NOTE: Same band, connection, and fit tolerance requirements as that for watertight joints except no gaskets or mastic are necessary.

### **Plastic Pipe**

Updated on 9-12-16 Joint Product Designations (approved for sizes thru 60")

<b>PRODUCT</b>	<b>MANUFACTURER</b>
Pro-Link Ultra Series WT, Bell and Spigot, w/gasket	ADS (Advanced Drainage Systems Inc.)
Sure-Lok WT/BLUE SEAL, bell & spigot, w/ F477 gasket	Hancor
GOLDFLO WT, Bell & Spigot, w/F477 gasket	PRINSCO, INC.

NOTE: Plastic Joint types from other plastic pipe manufacturers not currently shown may be approved by submitting samples to the NDR Materials and Tests Division.